



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/530,011

06/28/2005

James Walker Selway

267-93

7869

23117

7590

08/22/2006

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

JARRETT, RYAN A

ART UNIT

PAPER NUMBER

2125

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/530,011

Applicant(s)

SELWAY, JAMES WALKER

Examiner

Ryan A. Jarrett

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/1/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 04/01/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the:

“user configurable interface...specifying...variables” of claim 1 (the interface 50 of Figures 1 and 2 does not depict any means for specifying variables),

“relationship selection means” of claims 2 and 3,

“user configurable interface...configured to specify...which variables are...active and...passive” of claim 4,

“goal specification means” of claim 5,

“user configurable interface...configured to...specify...relationships and a conditional rule” of claim 7,

Art Unit: 2125

“system” allowing “constraints to be placed on a domain of a variable” of claim 12 (Figures 1 and 2 do not depict any means for placing constraints on variables),

“system” allowing “constraints to be defined” as “hard” or “soft” of claim 13,

“optimisation engine” of claims 14 and 15 (Figures 1 and 2 depict “Optimisation Heuristic’s & Goals”,

“relationship specifying means” of claim 16, and

all the method steps recited in claims 17-26,

must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

Art Unit: 2125

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Reference sign "2" mentioned on page 12 line 27 is not depicted in Fig. 1.

Reference sign "IA-2" mentioned on page 14 line 6 and page 21 line 6 of the specification is not depicted in Fig. 1. It is noted that reference sign "IA-2" is depicted in Fig. 2. However, the portions of the specification noted above appear to be referring only to Fig. 1.

Reference sign "58" mentioned on page 22 line 29 of the specification is not depicted in Fig. 2. Reference sign "59" depicted in Fig. 2 appears to be misplaced.

Reference sign "1" mentioned on page 22 line 36 of the specification is not depicted in Fig. 2.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of

Art Unit: 2125

any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities:

On page 5 line 10, it appears that "to" should be inserted before "control".

On page 14 lines 5-7, the specification discloses that the rule for strength/performance interaction is IR-1 and that the rule for constraints management is also IR-1. It is not clear if Applicant intends for these to be the same. If not, appropriate correction is required.

In line 8 of the abstract, it appears that "one" should be inserted before "internal process".

Claim Objections

6. Claims 1 and 17 are objected to because of the following informalities:

In claim 1 (page 24 line 10), it appears that the limitation "of the second design sub-process" should be deleted since it is redundant with respect to the "second design sub-process" recited in line 9.

In claim 17 (page 27 line 3), it appears that the limitation "of the second design sub-process" should be deleted since it is redundant with respect to the "second design sub-process" recited in line 2.

Art Unit: 2125

In claim 17 (page 27 line 7, it appears that "to" should be inserted before "control".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 7 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification provides no guidance or examples as to why or how to specify a conditional rule for selecting which of the two or more relationships is to be used. What are some exemplary conditional rules that determine which relationship is to be used?

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2125

10. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation "passive variables" in the claims is indefinite due to conflicting definitions in the specification. On page 9 lines 19-21, the specification discloses that the domain of the passive variable is determined by other variables, rules, and algorithms. However, on page 12 lines 26-28, the specification directly contradicts the disclosure on page 9 by disclosing that the passive variables cannot be changed by the algorithms or rules of the sub-process.

Consequently, since the limitation "passive variable" is indefinite for the reasons noted above, and since the definition of "active variable" is so intimately related to the definition of "passive variable", the definition of "active variable" must also be considered indefinite. For example, the specification discloses on page 12 lines 24-26 that sub-process algorithms or rules may change an active variable. However, as noted above, the specification also discloses on page 9 lines 19-21 that rules and algorithms may change the domain of passive variables. Therefore, the definitions appear to be the same and the meaning of both terms is indefinite.

Claim 1 recites the limitation "internal process" on page 24 line 17. This term has not been defined in the application and thus its meaning is indefinite.

Claim 1 recites the limitation "the manner in which said relationship is evaluated" on page 27 line 18. There is insufficient antecedent basis for this limitation in the claim. There is no prior mention in the claim of "evaluating" the relationship.

Claim 1 recites the limitation "the dominance of a sub-process" on page 27 line 19. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the overall design process" on page 27 line 19. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the overall design process" on page 27 line 19. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the relationship selection means" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 17 recites the limitation "internal process" on page 27 line 10. This term has not been defined in the application and thus its meaning is indefinite.

Claim 17 recites the limitation "the manner in which said relationship is evaluated" on page 27 line 18. There is insufficient antecedent basis for this limitation in the claim. There is no prior mention in the claim of "evaluating" the relationship.

Claim 17 recites the limitation "the dominance of a sub-process" on page 27 line 19. There is insufficient antecedent basis for this limitation in the claim.

Claim 17 recites the limitation "the overall design process" on page 27 line 19. There is insufficient antecedent basis for this limitation in the claim.

The remaining claims depend from claims 1 and 17 and incorporate the same deficiencies.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

Art Unit: 2125

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

12. Claim 1-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-26 are generally directed to an abstract idea (§101 judicial exception) of “specifying...variables”. For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea. Diehr, 450 U.S. at 187, 209 USPQ at 8; Benson, 409 U.S. at 71, 175 USPQ at 676.

To satisfy section 101 requirements, the claim must be for a practical application of the §101 judicial exception, which can be identified in various ways: (1) The claimed invention “transforms” an article or physical object to a different state or thing, or (2) The claimed invention otherwise produces a useful, concrete and tangible result.

Practical Application by Physical Transformation

(1) In the instant application, claims 1-26 do not “transform” an article or physical object to a different state or thing.

Practical Application That Produces a Useful, Concrete, and Tangible Result

(2) For eligibility analysis, physical transformation “is not an invariable requirement, but merely one example of how a mathematical algorithm [or law of nature] may bring about a useful application.” AT&T, 172 F.3d at 1358-59, 50 USPQ2d at 1452. In determining whether the claim is for a “practical application”, the focus is not on whether the steps taken to achieve a particular result are useful, tangible and

Art Unit: 2125

concrete, but rather that the final result achieved by the claimed invention is “useful, tangible and concrete”.

Tangible Result

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different thing. However, the tangible requirement does require that the claim must recite more than a §101 judicial exception, in that the process claim must set forth a practical application of that §101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had “no substantial practical application”). “[A]n application of a law of nature or mathematical formula to a ... process may well be deserving of patent protection.” Diehr, 450 U.S. at 187, 209 USPQ at 8 (emphasis added); see also Corning, 56 U.S. (15 How.) at 268, 14 L.Ed. 683 (“It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted...”). In other words, the opposite meaning of “tangible” is “abstract”.

In the instant case of claim 1, the final result achieved by the claimed invention is merely “specifying which of said one or more variables (A,B) are active variables...and which of said one or more variables (A,B) are passive variables”. This abstract result fails to provide the required “real-world result” that satisfies the “tangible result” requirement.

Claims 2-16 depend from claim 1 and incorporate the same deficiencies, and further fail to rectify the aforementioned deficiencies.

In the instant case of claim 17, the final result achieved by the claimed invention is merely “specifying which of said one or more variables (A,B) are active variables...and which of said one or more variables (A,B) are passive variables”. This abstract result fails to provide the required “real-world result” that satisfies the “tangible result” requirement.

Claims 18-26 depend from claim 17 and incorporate the same deficiencies, and further fail to rectify the aforementioned deficiencies.

Where the final result of a claimed invention is what has been determined, calculated, selected, decided, etc. without using what has been determined, calculated, selected, decided, etc. in a disclosed practical application or at least making what has been determined, calculated, selected, decided, etc. available for use through some form of conveyance (for example display, print, sound, transmission, etc.) or at least temporary storage somewhere, then a tangible result has not been achieved.

13. Further regarding claims 1-16, although the claims are directed to a “system”, all of the claimed elements (e.g., “user configurable interface”, “relationship selection means”, “goal specification means”, “optimisation engine”, and “relationship specification means”) could reasonably be interpreted by one of ordinary skill, in light of the disclosure, to be software, such that the “system” is software, per se, not tangibly embodied on a computer-readable medium. Such claims are not eligible for patent protection. This rejection is independent from the 35 U.S.C. 101 rejection of claims 1-16 above (tangibility requirement).

14. In anticipation of the Applicant amending the claims to contain statutory subject, a rejection on the merits appears below.

Claim Interpretations

15. For the purpose of examining the application on the merits, the claimed limitation "active variable" has been interpreted to mean "independent variable", and the claimed limitation "passive variable" has been interpreted to mean "dependent variable".

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

17. As best understood, claims 1-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Farrah et al. US 6,882,892.

The applied reference has a common assignee and inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e)

might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

For example, Farrah et al. discloses a system for controlling a design process having a first design sub-process and a second design sub-process, outcomes of one of the first and second design sub-processes being linked to outcomes of the other of the first and second design sub-processes and vice versa by a relationship between one or more first design sub-process variables (A) and one or more second design sub-process variables (B) of the second design sub-process (col. 3 lines 41-46), the system comprising:

a user configurable interface between said first and second design sub-processes, said user configurable interface allowing a user of said system to control said design process (e.g., col. 8 lines 51-55) by specifying which of said one or more variables (A,B) are active variables which can have their domains modified by at least one internal process within the sub-process to which the variable belongs (e.g., Figs. 8-9, col. 9 lines 5-6, EN: *Dx3 and Bz4 are the independent variables in col. 9, which correspond to the claimed "active variables"*) and which of said one or more variables (A,B) are passive variables which have their domains determined within allowable values by the domains of the other variable or variables in said relationship (e.g., Figs. 8-9, col. 9 lines 5-6, EN: *Ax3 is the dependent variable in col. 9, which corresponds to the claimed "passive variable"*), whereby specifying which of the variables are active

Art Unit: 2125

variables and which are passive variables determines the manner in which said relationship is evaluated and the dominance of a sub-process in the overall design process (e.g., col. 9 lines 7-16, EN: *This claimed functionality is an intended result of the claimed "specifying" above, not positively recited, and thus carries no patentable weight in its current form. However, as best understood, the limitation appears to be taught in col. 9 lines 7-16 of Farrah et al.*).

18. Claims 1-26 are additionally rejected under 35 U.S.C. 102(b) as being anticipated by WO/2001/54004, for the same reasons noted above with respect to Farrah et al. Farrah et al. is the U.S. national stage entry of the WO/2001/54004 publication.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2125

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ryan A. Jarrett
Examiner
Art Unit 2125

A handwritten signature in black ink, appearing to read 'RAGH' or similar, written in a cursive style.

8/14/06